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## Memorandum

To: Andrew Prophete (National Grid NY)

From: Brian Skelly

Copy to: Richard Dana, R. Scott Deyette (NYSDEC), and Chris Schroer (EA Engineering)  
Stephanie Selmer (NYSDOH)  
Dave Boram and Thor Helgason (de maximis)  
Ted Leissing (National Grid NY)  
Shail Pandya (AECOM)  
Ronell Marshall (GEI Consultants, Inc.)

Date: April 3, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
March 24, 2012 through March 30, 2012

Dear Andrew:

This report includes a summary of data collected during implementation of the Community Air Monitoring Plan (CAMP) at the Clifton Former MGP Site Operable Unit 2 (OU-2) in Staten Island, New York. Data collected are discussed in relation to remediation activities that occurred between March 24 and March 30, 2012.

There were no fifteen-minute exceedances of the Total Volatile Organic Compounds (TVOC), Particulate Matter (PM-10) [dust], or odor action levels associated with ground intrusive site activities during this reporting period. Fifteen-minute averages of TVOC, PM-10, and odor intensity data remained at a Site Condition 1.

Some elevated dust measurements occurred during the week that were caused by construction vehicle traffic and exhaust and mechanical hammering to break concrete onsite that exceeded the fifteen-minute action level for Particulate Matter (PM-10) [dust] data. GEI notified the construction manager. Concentrations of PM-10 decreased below the alert level and action levels within 15 minutes of each occurrence. Since these activities were not related to ground intrusive activities at these times, PM-10 remained at a Site Condition 1. The tables and figures accompanying this report summarize air monitoring results related to the action levels described by the CAMP Work Plan (AECOM, 2011 and GEI, 2012).

The following information is summarized in this report:

- Site construction activities
- Daily maximum 15-minute average concentrations of TVOC and PM-10 (dust) at each fixed station
- Elevated concentrations (if any)
- Meteorological data

### **Site Construction Activities**

Construction activities during this reporting period included:

- Asbestos abatement in 1-story building in OU-2
- Cleaning out storm water drain in OU-2
- Constructing scaffolding in OU-2
- EEI and TTI contractors mobilized to site for asbestos removal work
- Hand-digging well points in temporary fabric structure (TFS)
- Installation of electrical connection for lights in TFS
- Installation of stacks on carbon bed for air handling unit
- Installation of wood panels on temporary fence around OU-2
- Installation of crushed stone access ramp to decontamination pan
- Level A survey on Willow Ave
- Photography inside storm water drain in OU-2
- Pre-trenching in TFS
- Running power lines through conduits around inside perimeter in OU-2
- Welding splice plates inside of TFS
- Well points in OU-1

### **Data collection**

Real-time fixed station monitoring for TVOC and PM<sub>10</sub> (dust) was performed on the OU-2 site perimeter at six locations (FAM#1 through FAM#6). FAM#3 was located in the northeast corner of the 40 Willow Avenue Property during the week. Four AirLogics Classic stations equipped with gas chromatographs (GCs) were operated at FAM#2, FAM#3, FAM#4, and FAM#5 and two AirLogics Light stations were operated at FAM#1 and FAM#6. Diesel generators were used to power the four AirLogics Classic stations and will continue 24 hours a day, 7 days per week until 120 volt electrical connections are established onsite.

Table 1 summarizes the target concentrations for action levels and Site Conditions described by the CAMP. Table 2 provides a daily summary of maximum fifteen-minute average ambient air concentrations from each station. The daily reports appended to this report depict more detailed and time-specific comparison of upwind and downwind measurements and site activities that is needed to determine the Site Condition.

Upwind and downwind ambient air verification samples were not collected this week since very little ground intrusive activity took place. Ambient air verification sampling will begin when ground intrusive activity begins. Meteorological data collected at the on-site weather station are

Weekly Community Air Monitoring Report  
Clifton Former MGP Site Operable Unit 2 (OU-2)  
March 24, 2012 through March 30, 2012  
April 3, 2012  
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included in this report as Figures 1 through 4 which show a directional wind rose for the period and temperature, relative humidity, and wind speed time series for the period.

If you have any questions regarding the information in this report, please contact me.

## **References**

AECOM (2011). Appendix A of CERP Community Air Monitoring Plan (CAMP) Former Manufactured Gas Plant Operable Unit - 2 Remediation. Clifton, New York. August.

GEI Consultants, Inc (2012). Community Air Monitoring Plan: Clifton Former Manufactured Gas Plant Site – Operable Unit 2, Borough of Staten Island, New York. February.

New York State Department of Environmental Conservation (2010). DER-10 / Technical Guidance for Site Remediation and Investigation. Washington: Division of Environmental Remediation, December. Appendix 1-A. May.

Table 1 - Action Levels and Site Conditions  
 Community Air Monitoring Program  
 Clifton Former MGP Site Operable Unit 2  
 Borough of Staten Island, New York

	Alert Level	Action Level	Site Condition 1	Site Condition 2	Site Condition 3
TVOC (15-minute)	3.7 ppm	5.0 ppm	< 3.7 ppm	≥ 3.7 ppm, < 5.0 ppm	≥ 5.0 ppm
TVOC (1-minute)	NA	25 ppm	< 25 ppm	NA	≥ 25 ppm
PM-10 (15-minute)	100 ug/m <sup>3</sup>	150 ug/m <sup>3</sup>	< 100 ug/m <sup>3</sup>	≥ 100 ug/m <sup>3</sup> , < 150 ug/m <sup>3</sup>	≥ 150 ug/m <sup>3</sup>
Odor (15-minute)	Odors / Complaints	NA	No odors	NA	3 (n-butanol)
HCN (15-minute)	Visual Detection	NA	< 0.6 ppm	≥ 0.6 ppm (4-gas meter)	≥ 0.6 ppm (Draeger tube)
Naphthalene (15-minute)	NA	NA	< 440 ug/m <sup>3</sup>	≥ 330 ug/m <sup>3</sup> , < 440 ug/m <sup>3</sup>	≥ 440 ug/m <sup>3</sup>

**Notes:**

<sup>1</sup> Alert Levels are not established by the NYSDOH or NYSDEC and are internally established concentration levels for total volatile organic compounds. Alert Levels are set below the levels established by the NYSDOH so that actions can be taken prior to exceeding a NYSDOH threshold. An Alert Level serves as a screening tool to trigger contingent measures if necessary, to assist in minimizing off-site transport of contaminants during remedial activities

<sup>2</sup> Response Levels and Action Levels are not defined in Appendix 1A of the New York State Department of Environmental Conservation *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC, 2010)

ug/m<sup>3</sup> - micrograms per cubic meter

ppmv - parts per million by volume

TVOC - total volatile organic compounds

PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter

HCN - hydrogen cyanide

NA - not applicable

Table 2. Daily Maximum 15-Minute Average Concentrations of TVOC and PM-10  
 Community Air Monitoring Program  
 Clifton Former MGP Site Operable Unit 2  
 Borough of Staten Island, New York

Date	TVOC						PM-10					
	(ppm)						(ug/m <sup>3</sup> )					
	FAM-1	FAM-2	FAM-3	FAM-4	FAM-5	FAM-6	FAM-1	FAM-2	FAM-3	FAM-4	FAM-5	FAM-6
3/24/2012	0.0	0.1	0.2	0.1	0.0	0.1	66	21	4	34	58	143
3/25/2012	0.0	0.0	0.2	0.2	0.0	0.1	35	32	8	18	22	43
3/26/2012	0.0	0.1	0.3	0.5	0.5	0.2	62	40	18	296	152	127
3/27/2012	0.0	0.0	0.5	0.2	0.1	0.1	64	68	3	46	128	58
3/28/2012	0.0	0.1	0.5	0.2	0.1	0.3	80	44	3	14	3	68
3/29/2012	0.0	0.0	0.3	0.5	0.0	0.2	42	34	5	182	76	84
3/30/2012	0.0	0.0	0.2	0.2	0.1	0.2	195	49	2	9	35	43
Average	0.0	0.1	0.3	0.3	0.1	0.2	78	41	6	86	68	81
Maximum	0.0	0.1	0.5	0.5	0.5	0.3	195	68	18	296	152	127

**Notes:**

FAM - fixed air monitoring station location

ug/m<sup>3</sup> - micrograms per cubic meter

ppmv - parts per million by volume

TVOC - total volatile organic compounds

PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter

**Figures 1-4. Meteorological Data  
Clifton Former MGP Site  
Staten Island, NY**

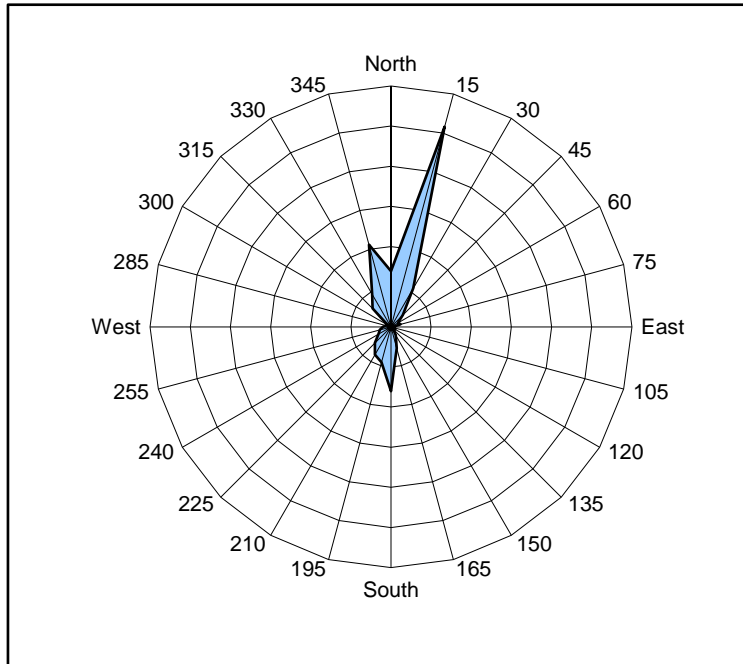


Figure 1. Wind rose for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute averages.

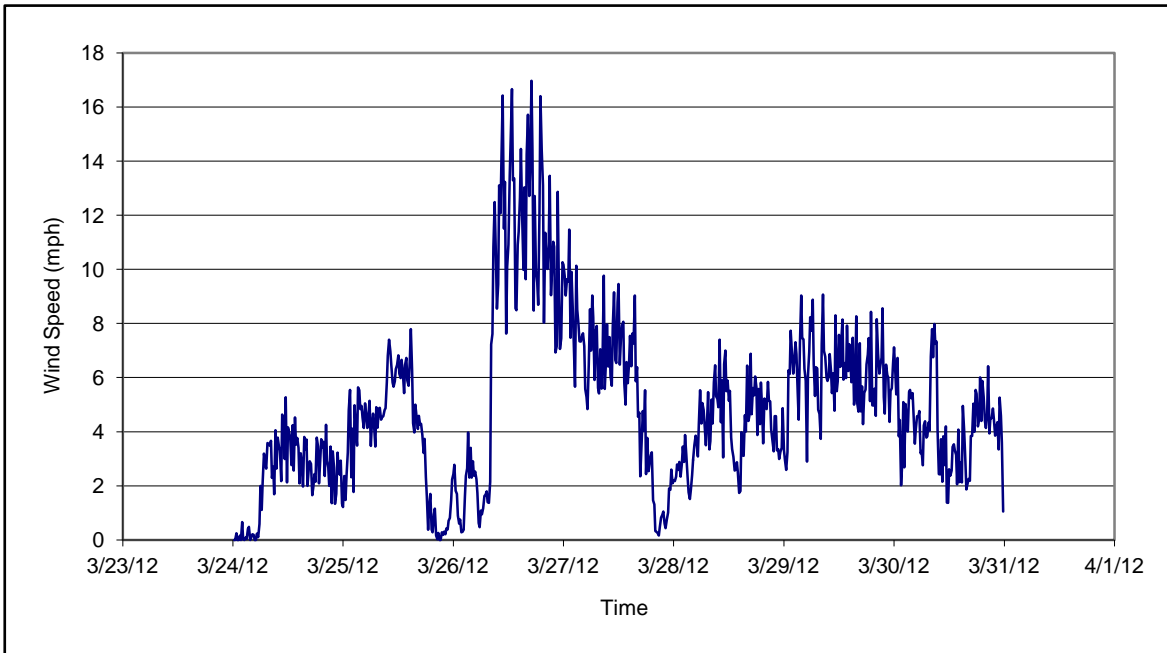


Figure 2. Wind speed for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**Figures 1-4. Meteorological Data  
Clifton Former MGP Site  
Staten Island, NY**

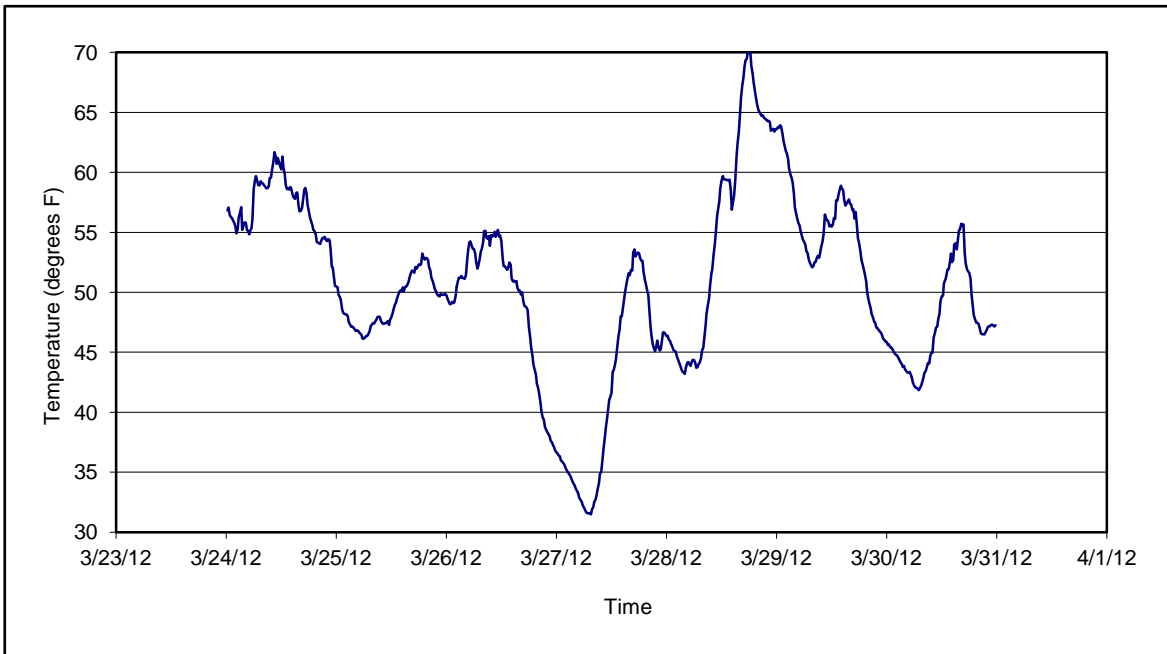


Figure 3. Temperature for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

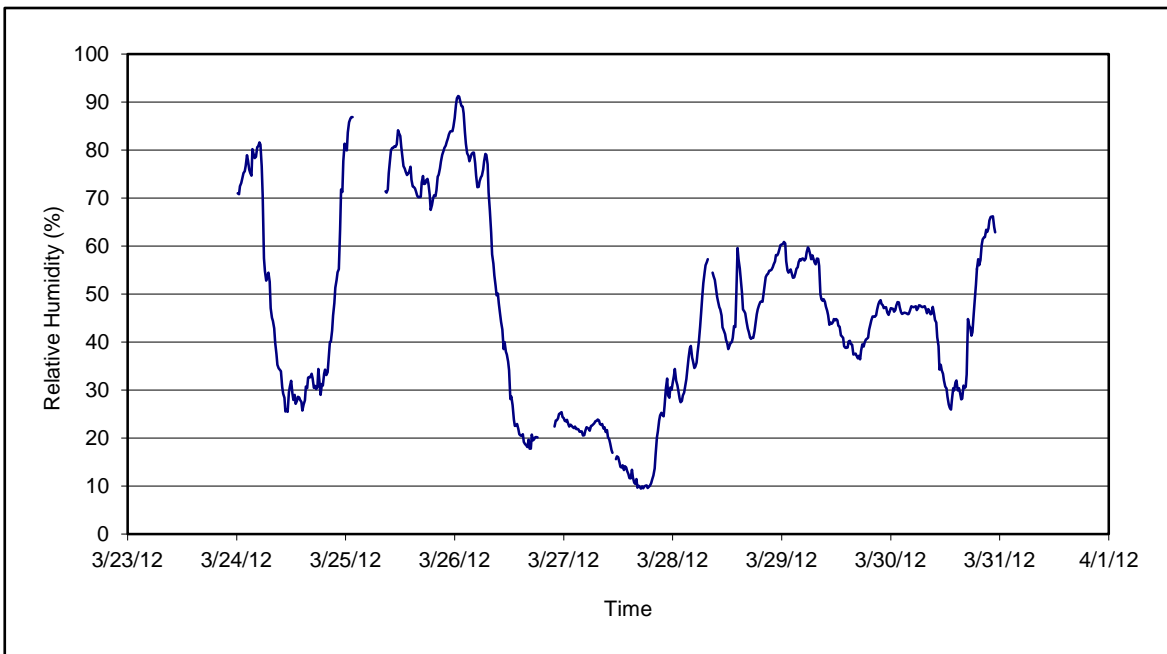


Figure 4. Relative humidity for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**Daily Field Report  
Community Air Monitoring Program  
Clifton Former MGP Site Operable Unit 2  
Borough of Staten Island, New York**

System Operations					General Observations								
Sampling Date: 3/26/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24  System Calibrations (Time/Status): Ok 0608-0805					General Weather Conditions: Sunny ~35° F- ~55°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Installation of electrical connection for lights in TFS Cleaning storm water lines Installation of stacks on carobn bed for air handling unit  Welding splice plates inside of TFS Asbestos abatement in 1-story building EEI and TTI mobilized to site for asbestos removal work Installation of crushed stone access ramp to decon pan								
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
3/26/2012	PM-10	FAM#4	10:39	10:40	1	NW	CW/UW	N/A	152	152	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.
3/26/2012	PM-10	FAM#4	10:52	10:55	4	N	DW	FAM#6	112	130	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.
3/26/2012	PM-10	FAM#4	14:59	15:19	20	NW	CW/UW	N/A	156	296	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.
3/26/2012	PM-10	FAM#5	12:18	12:20	3	N	CW/DW	FAM#6	82	102	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.
3/26/2012	PM-10	FAM#6	12:30	12:39	10	NE	CW/DW	FAM#1	87	110	1*	No ground intrusive activity. Onsite construction vehicle exhaust.	Notified construction manager. Construction vehicle was relocated and dust levels decreased.
<b>Comments:</b>													
No ground intrusive activity took place today.													
* Since no ground intrusive activities were conducted during this reporting period, PM-10 remained at a Site Condition 1.													
					<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>		<b>TVOC (1-min)</b>				
					Alert Limit: 100 ug/m <sup>3</sup>		3.7 ppm		-				
					Action Limit: 150 ug/m <sup>3</sup>		5.0 ppm		25 ppm				
<b>Notes:</b>													
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).					PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter								
** Upwind minus downwind concentrations are a time specific comparison.					TVOC - total volatile organic compounds								
FAM - Fixed Air Monitorign station location					NA - not applicable								
ug/m <sup>3</sup> - micrograms per cubic meter					ND - no data available								
ppmv - parts per million by volume										Field Representative: Ronell Marshall			
										Date: 3/26/2012			





**Daily Field Report**  
**Community Air Monitoring Program**  
**Clifton Former MGP Site Operable Unit 2**  
**Borough of Staten Island, New York**

System Operations					General Observations								
Sampling Date 3/27/2012 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24  System Calibrations Ok (Time/Status) 0613-0730					General Weather Conditions: Sunny ~35° F- ~55°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Cleaning storm water lines Installation of stacks on carbn bed for air handling unit  Welding splice plates inside of TFS Asbestos abatement in 1-story building Hand-digging well points in TFS Installation of wood panels on temporary fence around OU2								
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
3/27/2012	PM-10	FAM#5	12:41	12:55	15	NW	CW/UW	N/A	126	127	1*	Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.
<b>Comments:</b>													
* Since dust from construction vehicle traffic occurred outside the tented area of ground intrusive activity, PM-10 remained at a Site Condition 1.													
		<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>		<b>TVOC (1-min)</b>							
		Alert Limit:		100 ug/m <sup>3</sup>		3.7 ppm		-					
		Action Limit:		150 ug/m <sup>3</sup>		5.0 ppm		25 ppm					
<b>Notes:</b>													
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).						PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter							
** Upwind minus downwind concentrations are a time specific comparison.						TVOC - total volatile organic compounds							
FAM - Fixed Air Monitorign station location						NA - not applicable							
ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available							
ppmv - parts per million by volume								Field Representative:		Ronell Marshall			
								Date:		3/27/2012			
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**Daily Field Report  
Community Air Monitoring Program  
Clifton Former MGP Site Operable Unit 2  
Borough of Staten Island, New York**

<b>System Operations</b>					<b>General Observations</b>							
Sampling Date: 3/28/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24  System Calibrations (Time/Status): Ok 0733-0854					General Weather Conditions: Sunny-Cloudy w/ Stormy rain ~44°F-68 °F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Cleaning out storm water drain in OU2 Well points in OU1  Level A survey on Willow Ave Asbestos abatement in 1-story building Installation of wood panels on temporary fence around OU2							
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**	Site Condition	Site Activity During the Period (if applicable)	Actions Taken
<b>Comments:</b>												
					<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>			<b>TVOC (1-min)</b>		
					Alert Limit: 100 ug/m <sup>3</sup>		3.7 ppm			-		
					Action Limit: 150 ug/m <sup>3</sup>		5.0 ppm			25 ppm		
<b>Notes:</b> * Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW). ** Upwind minus downwind concentrations are a time specific comparison. FAM - Fixed Air Monitorign station location ug/m <sup>3</sup> - micrograms per cubic meter ppmv - parts per million by volume  PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter TVOC - total volatile organic compounds NA - not applicable ND - no data available  Field Representative: Ronell Marshall Date: 3/28/2012												

Daily Field Report  
 Community Air Monitoring Program  
 Clifton Former MGP Site Operable Unit 2  
 Borough of Staten Island, New York

System Operations					General Observations										
Sampling Date: 3/29/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0652-0920					General Weather Conditions: Sunny ~55° F - ~57°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Photography inside storm water drain inOU2 Pre-trenching in TFS Constructing scaffolding in OU2 Level A survey on Willow Ave Asbestos abatement on roof of 1-story building Installation of wood panels on temporary fence around OU2 Running power lines through conduits around inside perimeter inOU2										
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken		
3/29/2012	PM-10	FAM#4	12:04	12:17	14	NW	CW/UW	N/A	156	182	1*	No ground intrusive activity Heavy winds picking up loose dirt.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.		
<b>Comments:</b>															
* Since no ground intrusive activities were conducted during this time period, PM-10 remained at a Site Condition 1.															
					<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>		<b>TVOC (1-min)</b>						
					Alert Limit: 100 ug/m <sup>3</sup>		3.7 ppm		-						
					Action Limit: 150 ug/m <sup>3</sup>		5.0 ppm		25 ppm						
<b>Notes:</b>															
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).						PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter						Field Representative: Ronell Marshall			
** Upwind minus downwind concentrations are a time specific comparison.						TVOC - total volatile organic compounds						Date: 3/29/2012			
FAM - Fixed Air Monitorign station location						NA - not applicable									
ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available									
ppmv - parts per million by volume															



Daily Field Report  
Community Air Monitoring Program  
Clifton Former MGP Site Operable Unit 2  
Borough of Staten Island, New York

System Operations					General Observations								
Sampling Date	3/30/2012	General Weather Conditions:			Sunny- ~42 °F- ~51°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Cleaning out storm water drain in OU2 Well points in OU1  Level A survey on Willow Ave Asbestos abatement in 1-story building Installation of wood panels on temporary fence around OU2 Running power lines through conduits around inside perimeter inOU2								
System Start Time	continuous	General Description of Site Activities:											
System Stop Time	continuous												
Total Hrs Monitored	24												
System Calibrations (Time/Status)	Ok 0617-0751												
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
3/30/2012	PM-10	FAM#1	14:26	14:30	5	NW	CW	FAM#6	146	181	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Dust levels decreased after the vehicle passed.
<b>Comments:</b>													
* Since no ground intrusive activities were conducted during this time period, PM-10 remained at a Site Condition 1.													
				<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>		<b>TVOC (1-min)</b>					
				Alert Limit: 100 ug/m <sup>3</sup>		3.7 ppm		-					
				Action Limit: 150 ug/m <sup>3</sup>		5.0 ppm		25 ppm					
<b>Notes:</b>													
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).				PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter									
** Upwind minus downwind concentrations are a time specific comparison.				TVOC - total volatile organic compounds									
FAM - Fixed Air Monitoring station location				NA - not applicable									
ug/m <sup>3</sup> - micrograms per cubic meter				ND - no data available				Field Representative: Ronell Marshall					
ppmv - parts per million by volume								Date: 3/28/2012					
											Page 1 of 1		